Utah Carbon Capture and Geologic Sequestration (CCGS) Workgroup
8 September 2008
Meeting Summary
Last Revised: 16 September 2008

The first meeting of the Utah CCGS Workgroup was well attended by 34+ people, including most of the invited workgroup members and several observers. Three workgroup members participated via conference phone and/or web cast.

The meeting, which was led by Rusty Lundberg and Candace Cady of DEQ, began with a welcoming statement and introductions by all in attendance followed by a brief description of carbon capture and geologic sequestration (CCGS) and an overview of the principle components of a CCGS system.

The legislative mandate which initiated the formation of the CCGS Workgroup was then discussed. Passage of Utah Senate Bill 202 – Energy Resource and Carbon Emission Reduction Initiative – on March 18 enacted and/or amended the Municipal Electric Utility Carbon Emission Reduction Act (Title 10 Chapter 19) and the Energy Resource Procurement Act (Title 54 Chapter 17). Highlighted during the meeting were several provisions from these two statutes that are relevant to the development of recommended rules for carbon capture and geologic sequestration. These are:

Municipal Electric Utility Carbon Emission Reduction Act
10-19-201. Target amount of qualifying electricity -- Renewable energy certificate -- Cost-effectiveness.
(1) (a) To the extent that it is cost-effective to do so, beginning in 2025 the annual retail electric sales in this state of each municipal electric utility shall consist of qualifying electricity [including "qualifying carbon sequestration generation"] *or renewable energy certificates in an amount equal to at least 20% of adjusted retail electric sales.* (text in square brackets added)

As we move ahead in rule development, we should focus on the "cost-effectiveness" of what we are proposing. Let's make sure that after all the time we will be spending on this process we end up proposing a process that is economically achievable or at least drives in that direction.

10-19-102. Definitions.
(7) "Qualifying carbon sequestration generation" means a fossil-fueled generating facility located within the geographic boundary of the Western Electricity Coordinating Council that:
(a) becomes operational or is retrofitted on or after January 1, 2008; and
(b) reduces carbon dioxide emissions into the atmosphere through permanent geological sequestration or through other verifiably permanent reductions in carbon dioxide emissions through the use of technology.

The definition of "qualifying carbon sequestration generation" refers to "permanent geological sequestration" which may be at odds with 54-17-701 (4) below which refers to "injection of carbon dioxide … for the purpose of reducing emissions to the atmosphere through long-term geological sequestration as required by law or undertaken voluntarily or for subsequent beneficial reuse." We should endeavor to resolve this apparent discrepancy.

The main focus or purpose of the CCGS Workgroup will be to develop recommended rules under Part 701 of the Energy Resource Procurement Act, copied below in its entirety for reference:

Energy Resource Procurement Act

54-17-701. Rules for carbon capture and geological storage.

(1) By January 1, 2011, the Division of Water Quality and the Division of Air Quality, on behalf of the Board of Water Quality and the Board of Air Quality, respectively, in collaboration with the [Public Service C]*ommission and the Division of Oil, Gas and Mining and the Utah Geological Survey, shall present recommended rules to the Legislature's Administrative Rules Review Committee for the following in connection with carbon capture and accompanying geological sequestration of captured carbon:*

(a) site characterization approval;

(b) geomechanical, geochemical, and hydrogeological simulation;

(c) risk assessment;

(d) mitigation and remediation protocols;

(e) issuance of permits for test, injection, and monitoring wells;

(f) specifications for the drilling, construction, and maintenance of wells;

(g) issues concerning ownership of subsurface rights and pore space;

(h) allowed composition of injected matter;

(i) testing, monitoring, measurement, and verification for the entirety of the carbon capture and geologic sequestration chain of operations, from the point of capture of the carbon dioxide to the sequestration site;

(j) closure and decommissioning procedure;

(k) short- and long-term liability and indemnification for sequestration sites;

(l) conversion of enhanced oil recovery operations to carbon dioxide geological sequestration sites; and

(m) other issues as identified.

(2) The entities listed in Subsection (1) shall report to the Legislature's Administrative Rules Review Committee any proposals for additional statutory changes needed to implement rules contemplated under Subsection (1).

(3) On or before July 1, 2009, the entities listed in Subsection (1) shall submit to the Legislature's Public Utilities and Technology and Natural Resources, Agriculture, and Environment Interim Committees a progress report on the development of the recommended rules required by this part.

(4) The recommended rules developed under this section apply to the injection of carbon dioxide and other associated injectants in allowable types of geological formations for the purpose of reducing emissions to the atmosphere through long-term geological sequestration as required by law or undertaken voluntarily or for subsequent beneficial reuse.

(5) The recommended rules developed under this section do not apply to the injection of fluids through the use of Class II injection wells as defined in 40 C.F.R. 144.6(b) for the purpose of enhanced hydrocarbon recovery.

(6) Rules recommended under this section shall:

(a) ensure that adequate health and safety standards are met;

(b) minimize the risk of unacceptable leakage from the injection well and injection zone for carbon capture and geologic sequestration; and

(c) provide adequate regulatory oversight and public information concerning carbon capture and geologic sequestration.

The organization of the workgroup and the tasks to be performed by each subcommittee were discussed. Suggestions were given for additional tasks for the steering committee and subcommittees. During this discussion, the subcommittee chairs gave out their contact information and asked for volunteers to work on their subcommittees. Contact information for chairs: Rusty Lundberg (Steering Committee), rlundberg@utah.gov , 801.536.4485; Cheryl Heying (Capture & Separation Subcommittee), cheying@utah.gov , 801.536.4015; Al Zadeh

(Transportation & Compression Subcommittee), azadeh@utah.gov , 801.530.6673; Candace Cady (Injection Well Subcommittee), ccady@utah.gov , 801.538.9260. Brian McPherson suggested Dawn Thorne, who works with Brian at EGI, as a candidate for the Stakeholder Group Chair. Dawn was contacted and she agreed to the appointment. Her contact information is: Dawn Thorne (Stakeholder Group), dthorne@egi.utah.edu , 801.809.4907. The update of the tasks list for the steering committee and subcommittees and the updated list of workgroup members will be available on the CCGS Workgroup web page.

The purpose of the workgroup was discussed. The primary purpose of the Workgroup is to develop recommended rules for implementing carbon capture and geologic sequestration in Utah per Energy Resource Procurement Act Part 701. When asked whether we had captured all that is required of this Act in the list of tasks, the attendees had no comments. A secondary task is to prepare comments to EPA on the proposed Class VI injection well rule by November 24, 2008. Scott Anderson indicated this would be time consuming process if we want to develop a comprehensive response. GWPC is addressing this. Questions were raised regarding whether the Workgroup would be submitting comments on behalf of the State of Utah or just the Workgroup. Also would people be able to submit individually if they had different opinions than those expressed by the Workgroup. This warrants further discussion. Dan Jackson also reminded the workgroup that a public hearing is being held on October 2 in Denver.

Denise Chancellor of the Utah Attorney General's Office gave a talk on the legal issues she has identified thus far. Her presentation will be made available on the CCGS Workgroup web page.

A focused discussion followed in which the questions below were considered:

1. How will we conduct business?
The general opinion was that since it is the agencies listed in UCA54-17-701 that are charged with developing recommended rules for CCGS, the CCGS Workgroup is only acting in an advisory capacity to those agencies. Therefore, the CCGS Workgroup should conduct business informally with no need for a charter. It would be beneficial, however, to have a carefully crafted statement of purpose to guide our work.

2. How will we reach agreement? Consensus? Majority?
We decided that since we are an advisory organization we should make sure that majority and minority opinions are represented in our recommendations to the legislature.

3. How often will we meet? Subcommittees? Workgroup?
The subcommittees will meet as often as necessary to get their work done. The chairs will communicate with the steering committee to determine when the steering committee and workgroup as a whole needs to meet.

4. What will be our deliverables? Recommended Rules and ??
We all agreed that the recommended rules and comments to EPA on the proposed Class VI rule would be among our deliverables. It was suggested that there be a report to the workgroup on the DOE-sponsored pilot project at Farnham Dome. Brian McPherson agreed to make this presentation. It was also suggested that we produce a document referencing the external (to Utah) drivers that may impact or influence our development of rules. One example of such a driver is the power demands of California. There was guarded opposition to this proposal coupled with the explanation that we don't want to address the larger issues associated with carbon policy such as the Western Climate Initiative. However, it would be appropriate for our workgroup to engage other states in their CCGS rule making efforts – Wyoming, Washington, New Mexico – for the purpose

of producing a "lessons learned" document. We will look into setting up a conference call with these states. (FYI – The IOGCC tracks state activity in the development of CO2 rules at: http://www.iogcc.state.ok.us/Websites/iogcc/Images/CO2-State-Updates.pdf) Scott Anderson said he could get a copy of the World Resources Institute's (WRI) extended set of guidelines for CCS (expected to be published by late Oct) and GWPC's comments on CCGS submitted in March.

5. Working documents on CCGS Workgroup page: http://www.climatechange.utah.gov/CCGS_WG.htm

We will place our working documents on the web page. However, some documents we need to review may be copyrighted material, etc. so we will need to email these to the workgroup.

Action Items

1. Each subcommittee determine additional tasks to be addressed and report back to steering committee chair

2. Each subcommittee determine additional stakeholders to be represented

3. Re-assess task of preparing comments to EPA on Class VI proposed rule. Based on discussions during the meeting, we may want to reconsider whether this is a task we want to address as a workgroup. First of all, many of the members will be submitting comments to the EPA individually or as members of another group. A question was raised regarding who our comments would be representing – the State of Utah, the Workgroup, etc. Secondly, given the diversity of the membership of the CCGS WG, it may be difficult to reach agreement on the nature of our comments. Finally, Scott Anderson, who is working with GWPC in developing comments to EPA, indicated this would be a very time-consuming process.

4. If we decide to move forward with the development of comments to the EPA, we should plan on at least a steering committee meeting in mid-November before the November 24 deadline.

5. Scott Anderson will acquire documents from GWPC and WRI to assist us in our rules development.

6. …